

STATE OF THE SOUND 2004

AN OVERVIEW



How is Puget Sound's health? Are efforts to protect and restore the Sound on the right track? After many years of hard work to clean up pollution, protect habitat and restore degraded areas around the Sound, how much remains to be done?

The answers reflect a mix of positive and negative news. Thousands of committed people in the government and private sectors are accomplishing a great deal of excellent work, and that work is leading to significant improvements in some areas. Yet, the Sound continues to show troubling evidence of decline. Most notably, the health of the Sound's living resources—orcas, rockfish, marine birds and others—appear to be in jeopardy. Their plight may signal a broader systemic problem.

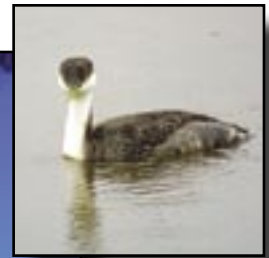
State of the Sound 2004 reports on the health of Puget Sound. It focuses on environmental indicators that provide insight into the condition of the Sound's water, submerged lands, habitats, species and the threats to these resources. *State of the Sound 2004* also highlights the Puget Sound Action Team partnership's progress to improve the Sound's health. This overview is a summary of the full report, which is available at www.psat.wa.gov or by calling (800) 547-6863.

The goal of a healthy Puget Sound now and for future generations can still be achieved, but to do so will require expanding the scale and intensity of the efforts.

Orcas / Center for Whale Research, Circle: Scalyhead sculpin / Jim Ramaglia

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PUGET SOUND
ACTION TEAM



Safeguarding the health of Puget Sound is critical to the region's economy and quality of life.

While Puget Sound appears as beautiful as always, its rich web of life is at risk. The building blocks of a healthy environment—clean water, sufficient habitat and an intact food web—continue to come under serious pressure.

The Action Team partnership and communities around the Sound are working hard and making important progress to protect Puget Sound as the region's population grows. Yet the Sound's environment functions as a mirror, reflecting back the cumulative impact of thousands of actions in the basin. These cumulative pressures are driving a slow motion crisis.

More human and financial resources are needed to safeguard the health of the Sound. Unless society's investments to protect the Sound are scaled to keep pace with the impacts of population growth and development, the region's prosperity will be shadowed by the eroding vitality of its greatest treasure.







Puget Sound is a crown jewel in Washington's landscape. Safeguarding the health of Puget Sound is critical to the region's economy and quality of life. It is also a covenant that those who live, work and play in the region today, have with their children and the children of tomorrow.

Center: Don Paulson Counter Clockwise from top left: Harbor seal / Brian Walsh, Seeding geoducks / Bill Dewey, Red rock crabs / Jim Ramaglia, Chinook salmon / Washington Department of Fish and Wildlife, Copper rockfish / Jim Ramaglia, Orca / Center for Whale Research, Giant green sea anemones / stock photo, Western grebe / Rick Cameron




Puget Sound Report Card for 2003 - 2004

The report card is a snapshot assessment of Puget Sound using various measures of the health of the Sound, which are covered in more detail in the full *State of the Sound 2004*.







Water and Submerged Lands

| Measure | Status | Trend |
|-------------------------------|---|--|
| Contaminated Sediments | Fair: Of the Sound's 1.8 million submerged acres, 5,700 are highly contaminated. PCBs and PAHs contaminate orcas, seals, fish and shellfish. |  Sites are being cleaned up. New sites are not being created. |
| PCBs ¹ | Fair: PCBs in English sole, herring, salmon, harbor seals and orcas indicate contamination of the Puget Sound food web. |  PCBs concentrations have declined slowly in recent years. |
| PAHs ² | Fair: PAHs in urban and industrial areas have triggered fish and shellfish consumption advisories. |  PAHs increased at four out of 10 monitoring stations between 1989 and 2000. |
| Metals | Fair: Levels of arsenic, mercury and tributyltin in urban areas have triggered fish and shellfish consumption advisories. |  Levels of arsenic, copper, lead and mercury have declined or remained steady. |
| Acres Available for Shellfish | Fair: In 2004, almost 135,000 acres of commercial shellfish growing areas were open for harvest. Today, 30,000 acres remain closed due to pollution. |  Net upgrades of 1,655 acres offset by doubling of growing areas on threatened list. |
| Stormwater | Fair: Multiple pollutants are carried by stormwater into the Sound. 16% of the central Sound's basin is too built out to support fish habitat. |  Impervious surface cover in the central Sound increased by more than 7% in the 1990s. |

Habitats

| Measure | Status | Trend |
|----------------------|---|--|
| Lowland Habitat Loss | Fair: In the 1990s, about 73 square miles of central Sound were converted from forest or cropland to at least 15% impervious surfaces. |  Loss of forest threatens habitat functions provided by natural landscapes. |
| Eelgrass | Incomplete: The state began monitoring eelgrass in 2000. Recent estimates showed 50,000 acres of eelgrass beds in Puget Sound. |  Between 2002 and 2003, eelgrass declined by 4%. |
| Spartina Infestation | Good: The state kept this non-native weed in check in Puget Sound. |  The state reduced spartina from 1,000 acres in 1997 to 680 acres in 2004. |

Species

| Measure | Status | Trend |
|-----------------|---|--|
| Species at Risk | Poor: 40 Puget Sound species are listed as threatened, endangered or as candidates on state and federal lists. |  This is a new indicator—no trend data exist yet. |
| Salmon | Poor: Chinook salmon, Hood Canal summer chum and bull trout are all listed as threatened under the federal Endangered Species Act. |  Marine survival of salmon from 3 monitored streams declined to low numbers in 1999. |
| Rockfish | Critical: Some rockfish populations are at less than 10% of their historic levels. |  Trend information for rockfish are not available for 2002 through 2004. |
| Herring | Fair: Three herring stocks are in depressed or critical condition, while 15 are healthy or moderately healthy. |  Stocks classified as healthy or moderately healthy grew from 12 in 2000 to 15 in 2002. |
| Marine Birds | Poor: 2002 populations of western grebes and surf scoters are much lower than those observed in the 1970s. |  Western grebes declined by 95% and surf scoters declined by 57% since the late 1970s. |
| Orcas | Poor: The state has listed all orcas that visit or reside in Washington waters as endangered. |  The decline of southern resident orcas that began in 1996 has reversed in recent years. |

Status Rating:

| | |
|-------------------|--|
| Excellent: | Healthy |
| Good: | Some local and/or minor impairment |
| Fair: | Degraded conditions occur in multiple locations and/or are locally severe |
| Poor: | Impairments are widespread or severe in multiple locations or for multiple resources |
| Critical: | Damage is extensive and/or risks are substantial |

Trend Rating (arrow):

| | |
|-----------------------|--|
| Up: | Improvement |
| Trending up: | Some indication of improvement; improvements outweigh losses |
| Flat: | Improvement equally offset by losses or holding ground |
| Trending down: | Some indication of decline; losses or potential losses outweigh improvements |
| Down: | Unequivocal decline |

¹PCBs - Polychlorinated biphenyls ²PAHs - Polycyclic aromatic hydrocarbons

State of the Sound's Water and Submerged Lands

Puget Sound carries a legacy of past pollution that continues to affect its health today. As cities around the Sound grew and prospered, human activities discharged toxic compounds to the water and these contaminants became bound to sediments in the Sound. Now, more than 5,700 acres of aquatic lands, mostly in Puget Sound's urban bays, exceed safe levels of toxicity. These sites spread pollutants to other areas of the Sound and contaminate the food web.

Human activities continue to release toxic contamination into Puget Sound. Wastewater from sewage treatment plants and industrial discharges flow into the Sound along with pollutants from oil and chemical spills; pesticide applications; illegal dumping; the tailpipes, drip pans, brake linings, and tires of cars and trucks; and from the smokestacks of factories and power plants, from as far away as Asia. A slew of new contaminants, such as pharmaceuticals, soaps, cosmetics and flame retardants are also finding their way into the Sound.

Nutrients and pathogens from human and animal waste that reach Puget Sound are a significant water-pollution problem. In Hood Canal, nutrient pollution has led to low levels of dissolved oxygen and extensive fish kills, which may threaten the long-term viability of marine life. Pathogens have closed 30,000 acres of commercial shellfish beds since 1980. The list of shellfish beds on the brink of closure has doubled to 18 since 1997.

Much of this pollution reaching Puget Sound is carried by the region's abundant rainfall, which runs across the land and pavement and picks up pollutants and carries them—untreated—into Puget Sound. The Washington Department of Ecology estimates that stormwater runoff has polluted more than 30 percent of the state's waters.

Protecting the Sound's Water and Submerged Lands

The Puget Sound Action Team partnership reduces pollution by cleaning up contaminated sites, developing and overseeing cleanup plans for polluted bodies of water, controlling sources of pollution, and preventing oil spills.



Urbanization creates stormwater runoff that can damage wildlife habitat and pollute Puget Sound. / 1000 Friends of Washington

2003-2004 Accomplishments

- Continued cleanup work on 530 acres of contaminated sediments.
- Evaluated an additional 4,500 acres of sediments to determine toxicity and eligibility for cleanup.
- Implemented a plan to reduce mercury in the environment and drafted a plan to prevent releases of flame retardants.
- Provided nearly \$800,000 for projects to reduce nutrient pollution in Hood Canal.
- Achieved a net upgrade of 1,655 acres of shellfish beds for commercial harvest.
- Developed nine cleanup plans for fecal coliform bacteria.
- Began expanding stormwater management programs to 75 smaller cities and counties and most construction sites.
- Supported low impact development projects that reduce stormwater runoff.
- Secured funding for a rescue tug at Neah Bay to prevent oil spills from distressed vessels.
- Legislated new safeguards to prevent oil spills.

State of the Sound's Habitat

Puget Sound is blessed with a wide diversity of habitats. The salt marshes, mudflats, sandy beaches, eelgrass, kelp beds and rocky-reef habitats each support distinct communities of plants and animals.

Urban development is shattering Puget Sound's habitat into fragments. People have installed bulkheads, dredged and filled one-third (800 miles) of the Sound's shorelines. Development and logging have converted nearly 240 square miles of forest to other uses during an eight-year period in the 1990s. As the pieces of habitat become smaller and more isolated, they are less able to support wildlife.

Protecting the Sound's Habitat

The Puget Sound Action Team partnership protects habitat by regulating land use, acquiring important lands, restoring damaged areas, controlling invasive species and educating people.



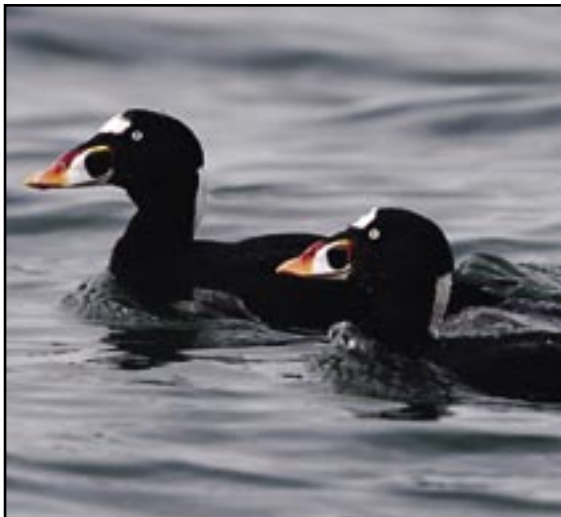
Of the 50,000 acres of eelgrass that provide valuable nursery habitat for Puget Sound marine life, about 4% were lost between 2002 and 2003.

2003-2004 Accomplishments

- Helped local governments protect Puget Sound through critical areas ordinances and shoreline master programs.
- Purchased 5,200 acres of riparian, wetland and estuarine habitat for permanent protection.
- Restored more than 1,700 acres of habitat.
- Removed 80 acres of spartina, an invasive grass that takes over mudflats and native marshes.
- Measured changes in eelgrass.
- Distributed \$530,000 for 39 projects to teach thousands of people how to become better stewards.

State of the Sound's Species

The living resources of Puget Sound are the ultimate indicators of its health, and the picture they paint is troubling. The effects of widespread pollution and habitat loss are showing up in the health of the Sound's species: declining populations of rockfish, salmon, forage fish, marine birds and orcas are warning signals that the Puget Sound ecosystem may be at risk. The federal government and Washington state currently identify 40 different Puget Sound species whose survival is in jeopardy.



Protecting and Recovering the Sound's Species

The Action Team partnership protects species by preserving and restoring habitat, cleaning up pollution, keeping the food web intact and reducing human disturbances. The Action Team partnership also focuses work directly on species of particular concern, identifying the threats they face, protecting their habitat and developing recovery plans.

2003-2004 Accomplishments

- Worked on Soundwide recovery planning for chinook salmon and bull trout.
- Mapped forage fish spawning areas to help guide shoreline land-use decisions.
- Monitored populations and restricted harvest for depleted stocks of rockfish, salmon and marine birds.
- Placed orcas on the state's list of species in danger of extinction and developed a plan for their recovery.

Western grebes have declined by 95% and south Sound scoter populations have declined by 57% since the 1970s.
Surfscoters / Mike Yip

Representatives from the following groups serve on the Action Team:

Washington State Government,
directors of the following agencies

Community, Trade and
Economic Development
Conservation Commission
Department of Agriculture
Department of Ecology
Department of Fish
and Wildlife
Department of Health
Department of Natural
Resources
Department of Transportation
Interagency Committee for
Outdoor Recreation
Parks and Recreation
Commission

Tribal Government

Tulalip Tribes, representing
Puget Sound Tribes

Local Government

City of Burien, representing
Puget Sound cities
Whatcom County, representing
Puget Sound counties

Federal Government (*non-voting*)

NOAA Fisheries
U.S. Environmental
Protection Agency
U.S. Fish & Wildlife Service

**Chair: Director of Puget Sound
Action Team staff**

For more information:

www.psat.wa.gov

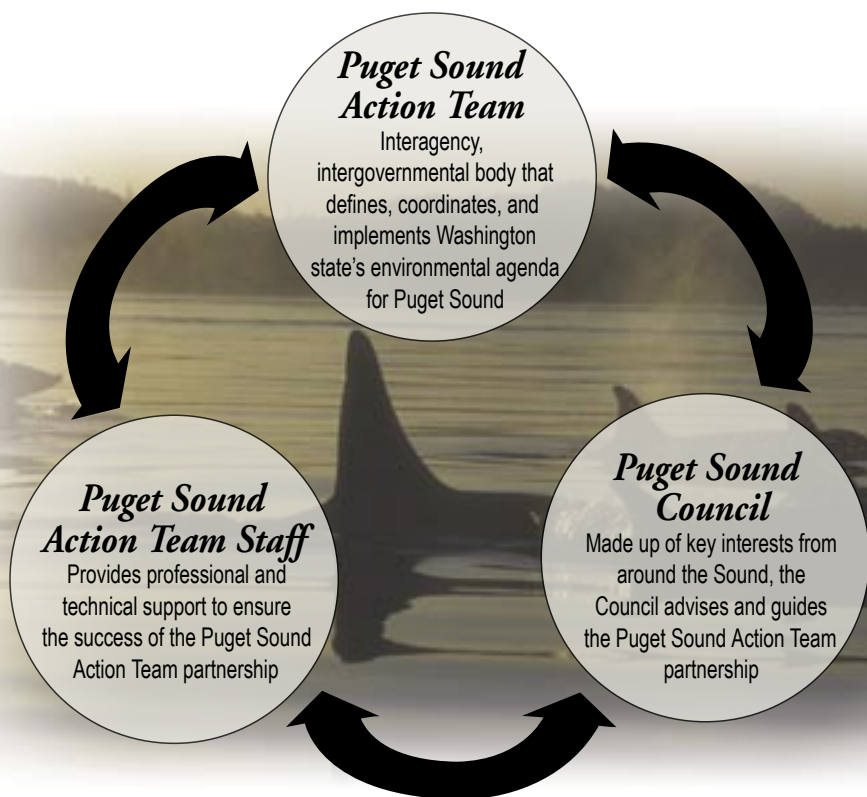
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Puget Sound Action Team Partnership

The Puget Sound Action Team is the state's partnership for Puget Sound.



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